

# ABSTRACT

An atomic force microscope (AFM) capable of observing the topography of a sample surface at high speed with a high resolution under the atmospheric pressure and a driving method therefor is provided. The AFM comprises a light beam source unit, a light beam scanner, a scanning probe unit (or matrix), a light beam detection unit, a driving control unit and a display unit. The driving method comprises the steps of vibrating, responsive to a reference signal, a first actuator provided on each of scanning probes; detecting a deflection amount of a cantilever provided with a tip at its free end; and transmitting a servo signal to a second actuator based on the deflection amount of the cantilever.

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